

Honolulu Laboratory
National Marine Fisheries Service
Honolulu, Hawaii 96822

**Marine Recreational Fishing
Statistical Survey**

Hawaii, 1979-81

The NMFS Marine Recreational Fishing Statistical Survey (MRFSS) was fielded throughout the United States beginning in 1979 and continuing until the present in some areas. It represented a new initiative on the part of NMFS to account for the recreational catch of fish (excluding shellfish and salmon) and was directly linked to the passage of the MFCMA. The MRFSS was conducted in the western Pacific (Hawaii, American Samoa, Guam, and the Northern Mariana Islands) by a private firm (Human Sciences Research, Inc.) under contract from NMFS Headquarters from 1979-81. The survey was fielded in the western Pacific by a local survey research firm, SMS Research Inc. The western Pacific survey was terminated in 1982 due to budgetary constraints and severe problems in survey design. The results from the western Pacific surveys were never published evidently because of flaws in the extrapolation procedures which could not be resolved by NMFS HQ, HSR, or a subsequent private survey research firm under contract to NMFS HQ. The general survey methodology is recorded in Marine Recreational Fishery Statistics Survey, Atlantic and Gulf Coasts, 1979, NMFS Current Fishery Statistics # 8063, December 1980. The NMFS Honolulu Laboratory was able to obtain the *preliminary* extrapolation tables from NMFS HQ and the raw intercept data from SMS Research Inc. The fielding information appears to be realistic, but we were not able to identify the fielding design, i.e., the means through which the samples were extrapolated. Therefore the attached tables should be viewed as indicative of the range of these fisheries, not precise estimates of average annual values and especially not indications of year-to-year variability.

The purpose of the survey was to develop annual estimates of:

1. number of marine recreational fishers in each area
2. number of marine recreational fishing trips
3. total number and weight of each species caught
4. socio-economic information on marine recreational fishing (demographics, costs, etc.)

In the western Pacific the term "recreational" referred to any person who goes fishing (with or without a commercial fishing license) who does not earn his/her primary income from fishing (SMS training manual, 1978). There evidently was some ambiguity about how this was actually applied in Hawaii, but it appears that the

results are indicative of that definition of "recreational".

The survey was conducted with two complementary surveys: a random telephone survey of households in each area, and an intercept survey of fishing participants at shoreline and port locations. Several survey forms were used during the three years the MRFSS was fielded in the western Pacific. The attached forms were used in Hawaii in 1981 to the best of our knowledge.

The telephone survey evidently formed the basis for extrapolation from the intercept survey. In the telephone survey, respondents were asked how many people in the household fished and where they fished (particularly between the four "modes": beach, pier, charter boat, private boat). The telephone survey results from 1981 indicate 719 fishing households in Hawaii. This apparently extrapolates to the estimate of 206,900 total participants in Hawaii, or an average expansion factor of 288x. Detailed comparison of some of the MRFSS total estimates by species with the intercept survey data suggest that there were extrapolation problems in the estimation of total weight from total number. Therefore weight estimates should be used with special care.

The attached table summarizes the main results from 1979-81. Also attached are several individual detailed summary tables from 1981.

Attachments

- Survey forms
- 1979-81 summary table
- 1981 detailed summary tables

Summary prepared by

Sam Pooley
Industry economist
Honolulu Laboratory

c:\fmpi\MRFSS2
April 22, 1992

mrfssl
c:\fmpi
4/22/92
=====

Summary of NMFS Marine Recreational
Finfish Statistical Survey for
Hawaii, 1979-81.
=====

| | 1979 | 1980 | 1981 |
|---------------------------------------|----------|----------|----------|
| | ----- | ----- | ----- |
| Fish Caught Number 100s by mode | Table 8 | Table 7 | Table 7 |
| Man-made | 2004 | 3252 | 4875 |
| Beach/bank | 29850 | 44717 | 88673 |
| Party/Charter | 689 | 362 | 305 |
| Private/Rental | 7129 | 14050 | 21017 |
| All Modes | 39671 | 62382 | 114870 |
| Fish Caught Weight 100 kg. | Table 22 | Table 24 | Table 24 |
| Man-made | 85 | 214 | 203 |
| Beach/bank | 34001 | 5343 | 8901 |
| Party/Charter | 21659 | 3678 | 4693 |
| Private/Rental | 21364 | 10695 | 28122 |
| All Modes | 77109 | 19931 | 41919 |
| Participants 100s | Table 25 | Table 27 | Table 27 |
| Residents | 1871 | 2352 | 1604 |
| Visitors | 911 | 822 | 465 |
| Total | 2782 | 3174 | 2069 |
| Trips 100s | Table 26 | Table 28 | Table 28 |
| Residents | 16595 | 21407 | 19352 |
| Visitors | 1152 | 1177 | 705 |
| Total | 17747 | 22589 | 20066 |
| Trips 100s by mode | Table 27 | Table 29 | Table 29 |
| Man-made | 1287 | 1340 | 1517 |
| Beach/bank | 10937 | 14144 | 12983 |
| Party/Charter | 908 | 883 | 437 |
| Private/Rental | 4615 | 6217 | 5120 |
| All Modes | 17747 | 22584 | 20058 |

| | 1979 | 1980 | 1981 |
|-----------------------------|----------|----------|----------|
| <hr/> | | | |
| Costs per person by mode | Table 28 | Table 30 | Table 30 |
| Man-made | | | |
| Hours | 3.40 | 3.60 | 4.00 |
| Cost | 2.30 | 3.00 | 3.60 |
| Work Days | 5.00 | 5.00 | 3.00 |
| Vacation Days | 2.70 | 3.10 | .00 |
| Beach/bank | | | |
| Hours | 3.80 | 4.30 | 4.60 |
| Cost | 3.50 | 4.60 | 6.80 |
| Work Days | 5.00 | 5.00 | 1.00 |
| Vacation Days | 2.10 | 2.40 | .00 |
| Charter/party | | | |
| Hours | 6.60 | 7.50 | 7.10 |
| Cost | 65.10 | 57.10 | 76.60 |
| Work Days | 5.30 | 5.20 | |
| Vacation Days | 3.40 | 3.40 | |
| Private/rental | | | |
| Hours | 6.30 | 6.70 | 6.40 |
| Cost | 12.90 | 26.20 | 18.70 |
| Work Days | 5.00 | 5.10 | |
| Vacation Days | 2.20 | 2.70 | |

| | | | |
|-------------------------------|----------|----------|-----|
| Intercepts (actual number) | Table 34 | Table 37 | N/A |
|-------------------------------|----------|----------|-----|

| | | |
|--------|-------|-------|
| Male | 6,437 | 6,508 |
| Female | 930 | 975 |
| Total | 7,367 | 7,483 |

| | | | |
|------------|----------|----------|----------|
| Intercepts | Table 48 | Table 50 | Table 48 |
|------------|----------|----------|----------|

| | | | |
|----------------|-------|-------|-------|
| Man-made | 599 | 959 | 1,175 |
| Beach/bank | 4,044 | 4,507 | 4,427 |
| Party/Charter | 378 | 493 | 230 |
| Private/Rental | 2,871 | 2,074 | 2,160 |
| All Modes | 7,892 | | 7,992 |

| | | | |
|-------------------|----------|----------|----------|
| Telephone Surveys | Table 35 | Table 37 | Table 35 |
|-------------------|----------|----------|----------|

| | | | |
|-------------------|-------|-------|-------|
| Fishing Household | 524 | 683 | 719 |
| Non-Fishing | 4,294 | 3,910 | 4,735 |
| Total | 4,818 | 4,593 | 5,454 |

214 12

(1981)

15 001

CALL RECORD FORM

Card type 1 (1)
Survey type 1 (2)
0 0 0 0 0 0 0 0 0 0 (3-12)
Subregion 8 (13)
Wave 1 2 3 4 5 6 (14)
Code Number 211522 (15-20)
County/State Code 1 5 0 0 3 (21-25)
Group Number 2 (26)

Telephone No. _____
Anticipated County/State HAWAII

Tadao (male)

| Interviewer | Date | Time | Result | Comments |
|--------------|------|------|-----------|---------------------------------|
| 2005 | 8/29 | 245 | 74 | |
| 2002 | 9/17 | 830 | 82 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Final Result | | | <u>82</u> | Result Code <u>2182</u> (27-28) |

Town or County, if County unknown: _____
How many people in your household have been saltwater finfishing in the last 12 months from this state or from a boat launched in this state? 2 (29-30)
How many have been saltwater finfishing in the last 2 months from this state or from a boat launched in this state? 0 0 (31-32)
0 0 (33-34)
Number of 2-month fishermen interviewed 0 2 (35-36)
Number of 2-month fishermen not interviewed: refusal 0 0 (37-38)
Number of 2-month fishermen not interviewed: unavailable 0 0 (39-40)
Number of 2 month fishermen not interviewed: other (SPECIFY) _____ 0 0 (41-42)

Record Type 2 (1)

Code No. 211522 (2-7)

Fisherman No. 01 (8-9)

Year/Month/Day 810919 (10-15)

Interviewer 2002 (16-19)

Information Provided by 1 (20)

Language of Interview 01 (21-22)

Two Month Recall 1 (23)

Number of Type 3 Records/Trips 009 (24-26)

Three

Miles

State/County

State

County

1 15003 (1-21)

1 15003 (1-21)

1 15003 (1-21)

1 15003 (1-21)

1 15003 (1-21)

1 15003 (1-21)

1 15003 (1-21)

1 15003 (1-21)

1 15003 (1-21)

15 001
for 10 miles
Rye

Record

Type

Trip

Year

Month

Day

Type

Mode

Gear

Area

Miles

State/County

State

County

3 001 810813 1 8 01 1 1 1 15003 (1-21)

3 002 810812 1 8 01 1 1 1 15003 (1-21)

3 003 810729 1 8 01 1 1 1 15003 (1-21)

3 004 810723 1 8 01 1 1 1 15003 (1-21)

3 005 1 1 1 1 1 1 15003 (1-21)

3 006 1 1 1 1 1 1 15003 (1-21)

3 007 1 1 1 1 1 1 15003 (1-21)

3 008 1 1 1 1 1 1 15003 (1-21)

3 009 1 1 1 1 1 1 15003 (1-21)

FINFISH INTERCEPT FORM

COMMERCIAL LICENSE

Yes
No

| | | | | |
|-------------------------------|---------------|--------------|--------------|---------|
| | | <div>1</div> | <div>2</div> | (1-2) |
| 1. Interviewer code | <div>2</div> | <div>1</div> | <div>3</div> | (3-6) |
| 2. Year/month/day | <div>7</div> | <div>4</div> | <div>1</div> | (7-12) |
| 3. Interview number | <div>0</div> | <div>0</div> | <div>2</div> | (13-15) |
| 4. Hour | <div>1</div> | <div>0</div> | <div>1</div> | (16-19) |
| 5. State | <div>11</div> | <div>5</div> | <div>2</div> | (20-21) |
| 6. County | <div>1</div> | <div>0</div> | <div>2</div> | (22-24) |
| 7. Site code | <div>1</div> | <div>1</div> | <div>1</div> | (25-27) |

This study is being conducted in accordance with the Privacy Act of 1974. You are not required to answer any question that you consider to be an invasion of your privacy. I have a copy of the Privacy Act Statement which you may look at if you like.

| | | | |
|--|-------------------------------------|---------------|---------|
| 8. Language of respondent | <div>3</div> | <div>1</div> | (28-29) |
| English = 01 | Filipino = 07 | Chamorro = 13 | |
| Spanish = 02 | Korean = 08 | Samoan = 14 | |
| French = 03 | American Indian = 09 | | |
| Italian = 04 | Native Alaskan (Eskimo, Aleut) = 10 | | |
| Japanese = 05 | Other (specify: _____) = 11 | | |
| Chinese = 06 | Unknown = 12 | | |
| 9. Sex of respondent | <div>1</div> | (30) | |
| Male = 1 | Unknown = 3 | | |
| Female = 2 | | | |
| 10. Estimate of mode of fishing | <div>5</div> | (31) | |
| Pier, dock = 1 | | | |
| Jetty, breakwater, breachway = 2 | | | |
| Bridge, causeway = 3 | | | |
| Other man-made structure = 4 | | | |
| Beach or bank = 5 | | | |
| Partyboat = 6 | | | |
| Charter boat = 7 | | | |
| Private or rental boat = 8 | | | |
| 11. Interview status | <div>1</div> | (32) | |
| Agrees to interview = 1 | | | |
| Refuses interview initially = 2 | | | |
| Nonresponse due to language barrier, age, or other = 3 | | | |
| Refuses interview after start—questionnaire not usable = 4 | | | |

12. Ask appropriate mode combination:

Would you say you were fishing from

5 (33)

... a pier, a dock, a bridge, a jetty, a breakwater, a breachway, or a causeway?

... a beach, a bank, rocks or some other shore area?

... a boat?

If Boat, ask: Was that a partyboat, a charter boat, a rental boat, or a private boat?

Pier, dock = 1

Beach or bank = 5

Jetty, breakwater, breachway = 2

Partyboat = 6

Bridge, causeway = 3

Charter boat = 7

Other man-made structure = 4

Private or rental boat = 8

13. Did you do any other (specify mode) fishing today besides here?

01 (34-35)

If No, Code 01. If Yes, ask:

At how many places, including here, did you (specify mode) fish today?

14. Were you fishing for anything in particular today?

0200000000 (36-45)

If No, Code 0 in all blocks.

0000000000 (46-55)

If Yes, ask: What species?

0000000000 (56-65)

15. Would you say that most of your (specify mode) fishing effort today was in the ocean, a sound, a river or bay?

1 (66)

Ocean = 1 Bay = 4

Sound = 2 Other (specify:) = 5

River = 3 Don't know = 6

Refusal = 9

15 a. If not ocean, Code 0. If Ocean, ask:

Was that more than three miles or three miles or less from shore?

2 (67)

More than three miles = 1

Don't know = 3

Three miles or less = 2

Refusal = 9

16. If mode is not boat, Code the State of intercept.

If mode is Boat, ask:

In what state's waters was most of your (specify mode) fishing effort?

52 (68-69)

Don't know = 98

Refusal = 99

17. Have you been fishing here today primarily with a hook and line?

| | |
|---|---|
| C | 1 |
|---|---|

 (70-71)

| | |
|------------------|-------------|
| IF Yes, Code 01. | IF No, ask: |
|------------------|-------------|

 What type of fishing have you been doing?

- | | | |
|---------------|------------|-----------------------------|
| Dip net = 02 | Trawl = 06 | Other (specify: _____) = 10 |
| Cast net = 03 | Trap = 07 | Refusal = 99 |
| Gill net = 04 | Spear = 08 | |
| Seine = 05 | Hand = 09 | |

18. How many (specify gear) have you been using?

| | |
|---|---|
| C | 2 |
|---|---|

 (72-73)

19. To the nearest half hour, how many hours have you spent (specify mode) fishing today with your (specify gear) in the water?

| | | | |
|---|---|---|---|
| 1 | 3 | . | 0 |
|---|---|---|---|

 (74-77)

20.

| |
|------------------------------|
| IF complete trip, Code 00.0. |
| IF incomplete trip, ask: |

 How many additional hours do you expect to (specify mode) fish today?

| | | | |
|---|---|---|---|
| 1 | 3 | . | 0 |
|---|---|---|---|

 (78-81)

21. Not counting today, within the past 12 months how many days have you gone saltwater sport finfishing in this state?

| | | |
|---|---|---|
| 1 | 5 | 5 |
|---|---|---|

 (82-84)

22. Not counting today, within the past 2 months how many days have you gone saltwater sport finfishing from this state?

| | |
|---|---|
| 2 | 3 |
|---|---|

 (85-86)

23. Now I'd like to ask you about your finfishing from other states. How many days have you been saltwater sport finfishing in the past 12 months from other states?

| | | |
|---|---|---|
| 0 | 0 | 0 |
|---|---|---|

 (87-89)

24. Within the past 2 months, how many days have you gone saltwater sport finfishing from other states?

| | |
|---|---|
| 0 | 0 |
|---|---|

 (90-91)

25. We are trying to get an estimate of how much leisure time people who fish have. First, in an average week, how many days do you work at your regular job or jobs? (IF RETIRED OR UNEMPLOYED, RECORD 0)

| |
|---|
| 0 |
|---|

 (92)

25a. And during the past twelve months, how many weeks of vacation or free time from your regular job did you have? (IF RETIRED OR UNEMPLOYED, RECORD 52)

| | |
|---|---|
| 5 | 2 |
|---|---|

 (93-99)

26. Not counting gas for your car, how much would you estimate it has cost you to fish here today? Here is a list of expenses fishermen often have.

| |
|-------------------------------|
| Hand respondent expense card. |
|-------------------------------|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | . | 0 | 0 |
|---|---|---|---|---|---|---|---|

 (96-100)

27. May I have your age?

| | | |
|--------------------|---------------|------------------|
| Under 5 years = 01 | 25 to 34 = 05 | 65 and over = 09 |
| 5 to 13 = 02 | 35 to 44 = 06 | Refusal = 99 |
| 14 to 17 = 03 | 45 to 54 = 07 | |
| 18 to 24 = 04 | 55 to 64 = 08 | |

01

(103-104)

28. What is your county and state of residence?

County

003

(105-10)

State

14

(108-10)

If county is unknown, ask:

What city or town do you live in?

1

(110)

29. Yes or no, do you have a home telephone?

Yes = 1
No = 2
Refusal = 9

In the event that my supervisor wishes to verify that I have been conducting interviews here today ...

If the person has an available phone:

Would you be willing to give me your name and phone number so that he might contact you?

Name:

Mr. Kodjoka

Phone Number

Area Code 703

(If not home telephone, specify: _____)

If the person does not have a phone or refuses to answer question 29, or refuses to give phone number:

Would you be willing to give me your name and address so that he might contact you?

Name

Address

ZIP Code

30. Did you catch any fish while you were (specify mode) fishing today that I might be able to look at? 2 (111)

Yes = 1 No = 2

30a. If Yes, and this person's available catch is on someone else's form, Code 00. 00 (112-113)

If No, Code 00

If Yes, and this person's available catch is *not* on someone else's form, ask:

Did you catch all of these yourself, or did someone else catch some of these?

If someone else, ask: Can you separate out your individual catch?

If No, ask: How many fishermen including yourself have their catch here? Please don't include anyone who did not catch anything. Only count those people who have their catch here.

31. Number of Type 2 records on Page 6. 00 (114-115)

32. Number of Type 3 records on Page 7, or, if this person's available catch is on someone else's form, Code 000. 000 (116-118)

33. Is there a Type 4 record, that is, is this person's available catch on someone else's form? If No, Code 0. If Yes, Code 1. 0 (119)

If No, skip to Item 35. If Yes, fill out the following table by asking the following:

34a. Can you give me the names of the species you caught that are *not* here with you?

34b. What did you do with the (specify species) that you caught?

Thrown back alive = 1 Used for bait = 4 Filleted and cleaned = 7
 Thrown back dead = 2 Sold = 5 Other (Specify: _____) = 8
 Given away = 3 Not in vicinity of interview site = 6 Refusal = 9

34c. How many (species) did you (disposition) ?

Repeat 34b and 34c until all unavailable species are accounted for.

Species

Species Code

Disposition

No. of Fish

[illegible]

Enter number of Type 2 Records in Item 31, Page 5.

[illegible]

| Species Name | Species Code | Total No. | Length | Weight |
|--------------|--------------|-----------|--------|--------|
| 1. | 3 | | | (1-23) |
| 2. | 3 | | | (1-23) |
| 3. | 3 | | | (1-23) |
| 4. | 3 | | | (1-23) |
| 5. | 3 | | | (1-23) |
| 6. | 3 | | | (1-23) |
| 7. | 3 | | | (1-23) |
| 8. | 3 | | | (1-23) |
| 9. | 3 | | | (1-23) |
| 0. | 3 | | | (1-23) |

Enter number of Type 3 Records in Item 32, and complete Item 33, Page 5.